


EXHIBIT 22

U.S. Patent No. 7,769,050

Claim 1	Identification
<p>1. A method for providing wireless communication, the method comprising:</p>	<p>Regardless of whether the preamble is limiting, T-Mobile performs a method of providing wireless communication.</p> <p>For example, T-Mobile owns, provides, and manages Wi-Fi equipment, such as Access Points (i.e., “routers” or “extenders”).</p> <div data-bbox="575 542 1295 792" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Do I need to return any equipment that was sent to me if I cancel service? </p> <p>Yes, you will need to return the gateway after you cancel your service, or you will be charged a non-return fee to your bill that is not eligible for any money back adjustment. Equipment Non-Return Fees are not part of Test Drive. These will be handled in the same way they would without Test Drive and are not eligible for a money back adjustment.</p> </div> <p>https://www.t-mobile.com/home-internet/faq</p> <div data-bbox="575 867 1751 1219" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>HOW WILL YOU INSTALL, MAINTAIN, OR REMOVE MY DEVICE?</p> <p>You agree that we or our contractors or authorized representatives may enter the premises where Service will be provided to install, maintain, inspect, repair, or remove the Device. You represent that you are authorized to allow entry to the premises for these purposes. You agree that we can install and affix equipment both inside and outside your premises (the “Premises”) at any reasonable location. You agree that our installers may need to drill holes in the premises to bring cables indoors. You agree and give permission that we may use any existing facilities in and around your Premises, including existing wiring.</p> <p>T-Mobile Fiber’s Equipment will at all times remain the property of T-Mobile, its successors or assigns, and may be removed by us upon the termination of this Agreement.</p> </div> <p>https://t-mobilefiber.com/terms/</p> <p>T-Mobile Access Points include Wi-Fi 6 (802.11ax) functionality.</p>



Dimensions (inches)

4.73 x 4.53 x 7.52

LCD

Yes

Wi-Fi

Wi-Fi 6 with 4 x 4 MIMO

Ethernet ports

2

Mesh Compatible

Yes

Network compatibility

5G NR, 4G LTE

<https://www.t-mobile.com/home-internet/gateway>

Supercharge your online life.

Stream, surf, game, work—do it all and do it fast with T-Mobile Fiber internet.

Equal upload and download speeds

Get the same fast speeds in each direction.

Wi-Fi 6 router ON US

Enjoy massive bandwidth and steady performance.

No caps on data usage

Take advantage of unlimited data.

No annual contracts

Feel free to cancel service at any time.

<https://t-mobilefiber.com/city/newyork>

1[a] providing a plurality of frequency channels in each of a plurality of portions of a service area,

T-Mobile provides multiple access points, for example, within a multi-family or mixed-use development. Using these access points, T-Mobile provides a plurality of frequency channels in each of a plurality of portions of a service area.

**5G Home Internet is available at
your address – But spots are
limited!**

T-Mobile 5G Home Internet is available at your address!

<https://www.t-mobile.com/home-internet/eligibility/vr-assisted>

17.3.8.4.2 Channel numbering

Channel center frequencies are defined at every integer multiple of 5 MHz above the channel starting frequency. The relationship between center frequency and channel number is given by Equation (17-27):

$$\text{Channel center frequency} = \text{Channel starting frequency} + 5 \times n_{ch} \text{ (MHz)} \quad (17-27)$$

where

$$n_{ch} = 1, \dots, 200.$$

Channel starting frequency is defined as `dot11ChannelStartingFactor` × 500 kHz or is defined as 5 GHz for systems where `dot11OperatingClassesRequired` is false or not defined.

For example, `dot11ChannelStartingFactor` = 10000 indicates that Channel 0 center frequency is 5.000 GHz. A channel center frequency of 5.000 GHz shall be indicated by `dot11ChannelStartingFactor` = 8000 and n_{ch} = 200. An SME managing multiple channel sets can change the channel set being managed by changing `dot11ChannelStartingFactor`.




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1[b] wherein the plurality of frequency channels are in an unlicensed frequency band

The above frequency channels are in the unlicensed 2.4, 5, or 6 Ghz bands.

<p>plurality of frequency channels is provided for use in two or more adjacent portions of the service area; and</p>	<p>For example, this is used for different basic service sets (BSS) to operate within a dense environment. Stations (STA) identify whether physical layer protocol data units (PPDUs) originate from within their own BSS when the sets are overlapping.</p> <div data-bbox="575 342 1724 613" style="border: 1px solid black; padding: 5px;"> <p>T.6 BSS color and spatial reuse</p> <p>The BSS color is an identifier of the BSS and is used to assist a receiving STA in identifying the BSS from which a PPDU originates so that the STA can follow the channel access rules to perform spatial reuse. The objective of spatial reuse operation is to allow the medium to be used more often between OBSSs in dense deployment scenarios by the early identification of signals from OBSSs and interference management. See 26.10.</p> </div> <p>802.11ax</p> <div data-bbox="575 691 930 745" style="border: 1px solid black; padding: 2px;"> <p>26.2 HE channel access</p> </div> <div data-bbox="575 751 1808 1183" style="border: 1px solid black; padding: 5px;"> <p>26.2.2 Intra-BSS and inter-BSS PPDU classification</p> <p>A STA shall classify a received PPDU as an inter-BSS PPDU if at least one of the following conditions is true:</p> <ul style="list-style-type: none"> — The RXVECTOR parameter BSS_COLOR is not 0 and is not the BSS color of the BSS of which the STA is a member. <p>A STA shall classify the received PPDU as an intra-BSS PPDU if at least one of the following conditions is true:</p> <ul style="list-style-type: none"> — The RXVECTOR parameter BSS_COLOR of the PPDU carrying the frame is the BSS color of the BSS of which the STA is a member or the BSS color of any TDLS links to which the STA belongs if the STA is an HE STA associated with a non-HE AP. </div> <p>802.11ax</p>
<p>1[d] mitigating interference associated with external interference sources by</p>	<p>This mitigates interference associated with external interference sources (which is, for example, the case in a dense deployment scenario) by making particular channels of the plurality of channels available for use by the network nodes according to the two tier scheduling strategy described in limitations 1[e] -1[g].</p>

<p>making particular channels of the plurality of channels available for use by network nodes disposed in the portions of the service area according to a two tier scheduling strategy,</p>	<div data-bbox="575 233 1724 505" style="border: 1px solid black; padding: 10px;"> <p>T.6 BSS color and spatial reuse</p> <p>The BSS color is an identifier of the BSS and is used to assist a receiving STA in identifying the BSS from which a PPDU originates so that the STA can follow the channel access rules to perform spatial reuse. The objective of spatial reuse operation is to allow the medium to be used more often between OBSSs in dense deployment scenarios by the early identification of signals from OBSSs and interference management. See 26.10.</p> </div> <p>802.11ax</p>
<p>1[e] wherein a first tier of the scheduling strategy includes assigning the plurality of frequency channels to each portion of the service area at a relatively slow pace;</p>	<p>The first tier of the scheduling strategy is to assign channels at a slow pace, e.g., when the device is set up or when a channel is scanned for interference.</p> <p>For example, channels are scanned or selected when using T-Mobile routers.</p>
<p>1[f] wherein a second tier of the scheduling strategy includes allocating the assigned frequency channels resulting from the first tier of the scheduling strategy among the network nodes disposed in each portion of the service area in real-time; and</p>	<p>The second tier of the scheduling strategy is to allocate the assigned frequency channels resulting from the first tier of the scheduling strategy among the network nodes disposed in each portion of the service area in real-time, through the spatial reuse function.</p> <p>Through the spatial reuse operation, frequency channels are allocated by BSS color (marking PPDU as inter-BSS).</p>

	<div><h2>Wi-Fi Networks</h2></div> <div><p>Change your Wi-Fi network names and passwords.</p></div> <div><h3>Your Networks</h3></div> <div><h4>How it works</h4><p>You may configure your T-Mobile gateway with a single Wi-Fi network, or two separate Wi-Fi networks.</p><p>A. Combined / Automatic (Recommended) Connected devices will automatically use the radio frequency (2.4 GHz or 5 GHz) which provides the best Wi-Fi connection. This is the recommended configuration for most customers.</p><p>B. Separate Networks With this option, you will have 2 Wi-Fi networks: one which operates at the 2.4 GHz radio frequency, and the other which operates at the 5 GHz radio frequency. Try separate networks if you have any devices that are not connecting to the standard combined network.</p><p>Learn more about the difference between 2.4 GHz and 5 GHz Wi-Fi networks.</p></div>
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```

t-mobile-wifi-info.txt - Notepad
File Edit Format View Help
{
  "2.4ghz": {
    "airtimeFairness": true,
    "channel": "Auto",
    "channelBandwidth": "Auto",
    "isMUMIMOEnabled": true,
    "isRadioEnabled": false,
    "maxClients": 128,
    "mode": "auto",
    "..."
  }
}

```

An example of OBSS PD SR operation is shown in Figure 26-12. In this example, STA SR S2

- Receives the PPDU from S1 and, if it classifies the PPDU as inter-BSS PPDU, ignores the PPDU using OBSS PD-based spatial reuse with non-SRG OBSS PD, starts the OBSS PD SR transmit power restriction period 1 with TX_PWRmax 1, and decrements its backoff counter until the reception of the PPDU from D1.
- Receives the PPDU from D1 and, if it classifies the PPDU as inter-BSS PPDU, ignores the PPDU (if it chooses to do so) using OBSS PD-based spatial reuse with non-SRG OBSS PD, starts the OBSS PD SR transmit power restriction period 2 with TX_PWRmax 2, and decrements its backoff counter until the reception of the PPDU from S1'.
- Defers during the TXOP S1" set by the intra-BSS PPDU from S1" that belongs to its own BSS and, at the end of the TXOP S1", resumes the decrement of its backoff until the reception of the PPDU from S1'.
- Receives the PPDU from S1' and, if it classifies the PPDU as SRG PPDU, ignores the PPDU (if it chooses to do so) using OBSS PD-based spatial reuse with SRG OBSS PD, starts the OBSS PD SR

transmit power restriction period 3 with TX_PWRmax 3, and decrements its backoff counter until the counter reaches zero because it does not receive the PPDU from D1'.

- Starts transmitting a PPDU with a TX_PWRmax equal to min(TX_PWRmax 1, TX_PWRmax 2, TX_PWRmax 3) and respects this transmit power restriction until the end of the SR TXOP.

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	<p>26.10.3.2 PSR-based spatial reuse initiation</p> <p>An HE STA identifies an PSR opportunity if the following two conditions are met:</p> <ul style="list-style-type: none"> a) The STA receives a PHY-RXSTART.indication corresponding to the reception of a PSRR PPDU that is identified as an inter-BSS PPDU (see 26.2.2). <p>802.11ax</p>
<p>l[g] wherein the network nodes are selected for simultaneous use of said particular channels as a function of spatial characteristic groupings of said network nodes.</p>	<p>As a function of the spatial characteristic groupings of said network nodes (i.e., BSS), the network nodes are selected for simultaneous use of particular channels.</p>

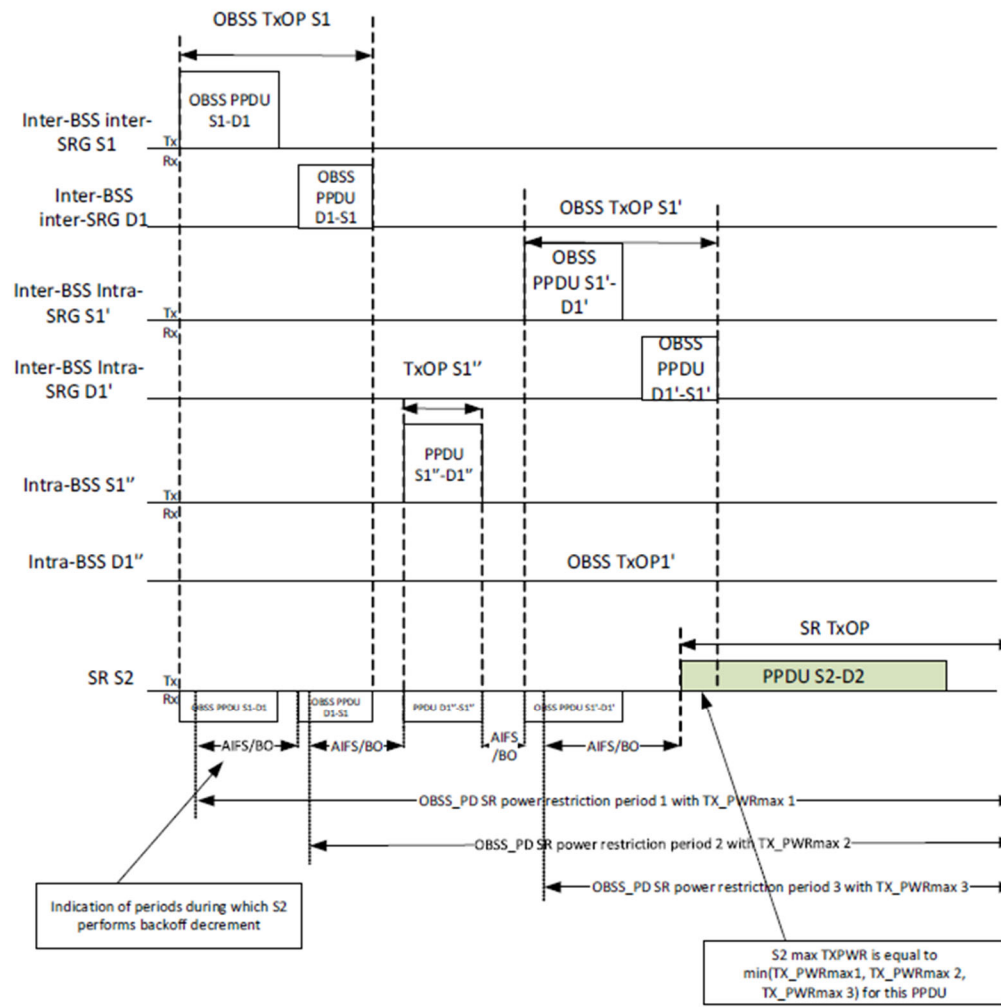


Figure 26-12—Example of OBSS PD SR operation

802.11ax